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**RBW109-3501-04-3**  
**Job Sheet 202806**



Part No: RBW109-3501-04-3

Job Qty: 2 pcs

Part Name: Wrench Assembly

Part Weight: 0 lbs

Status: New

Priority: Medium

Job Created: 11/4/19

Job Tracking No:

Due Date: 11/22/19

Created By: Marie Lajeunesse

Type: SOLD

Description:

Note: DWG RBW109-3501-04-3 REV.A IPP Rev. A 19.11.04 New issue DP Verify DD

Ship Via:

Bill of Materials

Job Routing

| Op No | Operation                   | Qty   | Start Date | Due Date | Standard  |         | Workcenter/Supplier   |           | Sign-off |
|-------|-----------------------------|-------|------------|----------|-----------|---------|-----------------------|-----------|----------|
|       |                             |       |            |          | Setup Hrs | Run Hrs | Workcenter / Supplier | Lead Time |          |
| 100   | Small Fab - 1               | 2 pcs | 11/22/19   |          | 0.00      | 0.17    | Small Fab - 1         |           |          |
|       |                             |       |            |          |           |         | Small Fab - 2         |           |          |
|       |                             |       |            |          |           |         | Small Fab - 3         |           |          |
|       |                             |       |            |          |           |         | Small Fab - 4         |           |          |
|       |                             |       |            |          |           |         | Small Fab - 5         |           |          |
|       |                             |       |            |          |           |         | Small Fab - 6         |           |          |
|       |                             |       |            |          |           |         | Small Fab - 7         |           |          |
|       |                             |       |            |          |           |         | Small Fab - 8         |           |          |
|       |                             |       |            |          |           |         | Small Fab - 9         | 60        | 19-12-27 |
| 110   | QC 5                        | 2 pcs | 11/22/19   |          | 0.00      | 0.00    | QC 5 - 10             |           |          |
|       |                             |       |            |          |           |         | QC 5 - 12             |           |          |
|       |                             |       |            |          |           |         | QC 5 - 17             |           |          |
|       |                             |       |            |          |           |         | QC 5 - 18             |           |          |
|       |                             |       |            |          |           |         | QC 5 - 19             |           |          |
|       |                             |       |            |          |           |         | QC 5 - 22             |           |          |
|       |                             |       |            |          |           |         | QC 5 - 24             |           |          |
|       |                             |       |            |          |           |         | QC 5 - 3              |           |          |
|       |                             |       |            |          |           |         | QC 5 - 43             |           |          |
|       |                             |       |            |          |           |         | QC 5 - 49             |           |          |
|       |                             |       |            |          |           |         | QC 5 - 51             |           |          |
|       |                             |       |            |          |           |         | QC 5 - 58             |           |          |
|       |                             |       |            |          |           |         | QC 5 - 68             |           |          |
|       |                             |       |            |          |           |         | QC 5 - 9              |           |          |
|       |                             |       |            |          |           |         | QC 5 - 50             |           |          |
|       |                             |       |            |          |           |         | QC 5 - 30             |           |          |
|       |                             |       |            |          |           |         | QC 5 - 40             |           |          |
|       |                             |       |            |          |           |         | QC 5 - 61             |           |          |
|       |                             |       |            |          |           |         | QC 5 - 81             |           |          |
|       |                             |       |            |          |           |         |                       |           |          |
| 130   | Packaging 3-1 - Stock - B4B | 2 pcs | 11/22/19   |          | 0.00      | 0.00    | Packaging 3 - 1 - B4B |           |          |
|       |                             |       |            |          |           |         | Packaging 3 - 2 - B4B |           |          |
|       |                             |       |            |          |           |         | Packaging 3 - 3 - B4B |           |          |

|                |       |          |           |  |                        |          |
|----------------|-------|----------|-----------|--|------------------------|----------|
|                |       |          |           |  | Packaging 3 - 4 - B4B  |          |
|                |       |          |           |  | Packaging 3 - 5 - B4B  |          |
|                |       |          |           |  | Packaging 3 - 6 - B4B  |          |
|                |       |          |           |  | Packaging 3 - 7 - B4B  |          |
|                |       |          |           |  | Packaging 3 - 8 - B4B  |          |
|                |       |          |           |  | Packaging 3 - 9 - B4B  |          |
|                |       |          |           |  | Packaging 3 - 10 - B4B | 19-12-27 |
|                |       |          |           |  | Packaging 3 - 11 - B4B |          |
|                |       |          |           |  | Packaging 3 - 12 - B4B |          |
|                |       |          |           |  | Packaging 3 - 13 - B4B |          |
|                |       |          |           |  | Packaging 3 - 14 - B4B |          |
|                |       |          |           |  | Packaging 3 - 15 - B4B |          |
|                |       |          |           |  | Packaging 3 - 16 - B4B |          |
|                |       |          |           |  | Packaging 3 - 17 - B4B |          |
|                |       |          |           |  | Packaging 3 - 18 - B4B |          |
|                |       |          |           |  | Packaging 3 - 19 - B4B |          |
|                |       |          |           |  | Packaging 3 - 20 - B4B |          |
|                |       |          |           |  | Packaging 3 - 21 - B4B |          |
|                |       |          |           |  | Packaging 3 - 22 - B4B |          |
|                |       |          |           |  | Packaging 3 - 23 - B4B |          |
|                |       |          |           |  | Packaging 3 - 24 - B4B |          |
|                |       |          |           |  | Packaging 3 - 25 - B4B |          |
|                |       |          |           |  | Packaging 3 - 26 - B4B |          |
|                |       |          |           |  | Packaging 3 - 27 - B4B |          |
|                |       |          |           |  | Packaging 3 - 28 - B4B |          |
|                |       |          |           |  | Packaging 3 - 29 - B4B |          |
|                |       |          |           |  | Packaging 3 - 30 - B4B |          |
|                |       |          |           |  | Packaging 3 - 31 - B4B |          |
|                |       |          |           |  | Packaging 3 - 32 - B4B |          |
|                |       |          |           |  | Packaging 3 - 33 - B4B |          |
|                |       |          |           |  | Packaging 3 - 34 - B4B |          |
|                |       |          |           |  | Packaging 3 - 35 - B4B |          |
|                |       |          |           |  | Packaging 3 - 36 - B4B |          |
| 140 QC 21 - FG | 2 pcs | 11/22/19 | 0.00 0.00 |  | QC 21 - FG - 21        |          |
|                |       |          |           |  | QC 21 - FG - 70        |          |
|                |       |          |           |  | QC 21 - SA - 53        |          |

TBD

Part Op 100 - Small Fab - Assemble as per drawing. See note 8.  
Descriptions: 110 - QC5- Inspect part completeness to step on W/O  
130 - Identify as per dwg & Stock Location: \_\_\_\_\_ 1-The tool must be packaged with a desiccant bag into a tight fitting sealed plastic bag as per DWG.  
140 - QC21- Final Inspection - Work Order Release

Job BOM

| Part / Item           | Component Name | Quantity     | Operation         | Container |
|-----------------------|----------------|--------------|-------------------|-----------|
| RBW109-3501-04-3-1 QC | Pin            | 2 pcs (1 ea) | 100-Small Fab - 1 | 234291    |
| RBW109-3501-04-3-3    | Key            | 2 pcs (1 ea) | 100-Small Fab - 1 | 236047    |

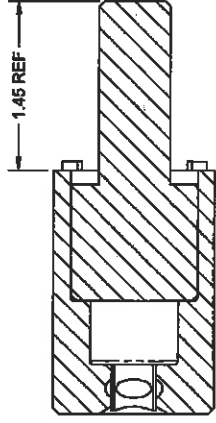
Job Allocations

| Operation         | Component Part     | Required | Inventory | Allocated |
|-------------------|--------------------|----------|-----------|-----------|
| 100-Small Fab - 1 | RBW109-3501-04-3-1 | 2        | 0         | 0         |
|                   | RBW109-3501-04-3-3 | 2        | 0         | 0         |

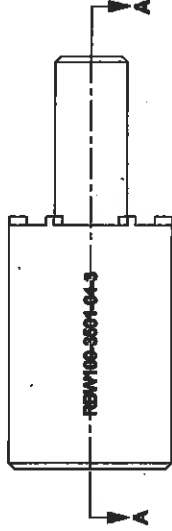
Part Specifications

Specifications could not be found.

| ITEM # | QTY | PART #             | PART TITLE |
|--------|-----|--------------------|------------|
| -1     | 1   | RBW109-3501-04-3-1 | PIN        |
| -3     | 1   | RBW109-3501-04-3-3 | WRENCH     |

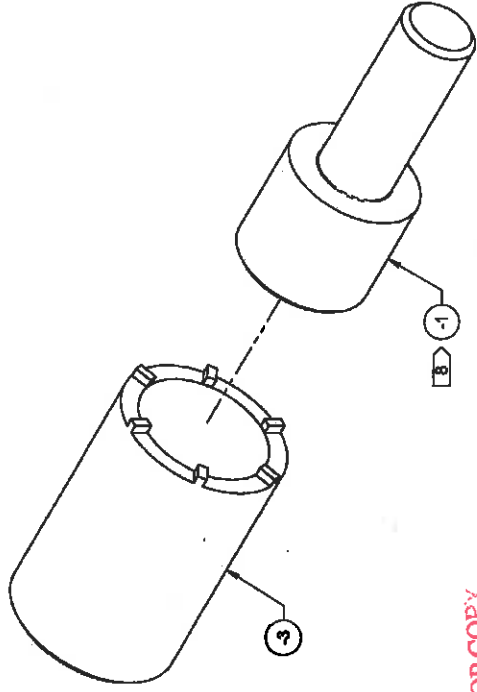


SECTION A-A



RBW109-3501-04-3 WRENCH ASSEMBLY

- NOTES:
- 1) MATERIAL: N/A
  - 2) HEAT TREAT: N/A
  - 3) FINISH: N/A
  - 4) TOLERANCES: X.X =  $\pm 0.1"$  /  $\pm 1"$   
X.XX =  $\pm 0.01"$  /  $\pm 0.5"$   
X.XXX =  $\pm 0.005"$  /  $\pm 0.1"$   
X.XXXX =  $\pm 0.0005"$  /  $\pm 0.05"$   
PARALLELISM, ECCENTRICITY AND SYMMETRY ABOUT ALL CENTER LINES =  $\pm 0.005"$
  - 5) UNITS: INCHES UNLESS OTHERWISE NOTED
  - 6) IDENTIFICATION: N/A
  - 7) ASSEMBLY: N/A
  - 8) APPLY RETAINING COMPOUND LOCTITE 620 OR EQUIVALENT ON MATING SURFACES THEN PRESS FIT ITEM -1 WITH ITEM -3, AND REMOVE EXCESS
  - 9) THE TOOL ASSY MUST BE PACKAGED WITH A DESICCANT BAG INTO A TIGHT FITTING SEALED PLASTIC BAG



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SUBJECT TO AMENDMENT  
WITHOUT NOTICE  
WORK ORDER  
NO. 222806 MJS  
19-11-04

|            |                                                                                    |       |              |
|------------|------------------------------------------------------------------------------------|-------|--------------|
| REV. A     | UPDATED DRAWING TEMPLATE<br>SEE CAR19-348 FOR DETAILED EXPLANATION OF CHANGES MADE | 9.995 | KPT          |
| DESIGN     | DESCRIPTION                                                                        | ECN # | BY           |
| DRAWN      | DART AEROSPACE LTD<br>HAWKESBURY, ONTARIO, CANADA                                  |       |              |
| CHECKED    | TOOL PART #                                                                        |       | REV. A       |
| MFG. APPR. | RBW109-3501-04-3                                                                   |       | SHEET 1 OF 3 |
| APPROVED   | TITLE                                                                              | SCALE |              |
|            | WRENCH ASSEMBLY                                                                    | MTS   |              |
| DATE       | 2019-11-01                                                                         |       |              |



|                                                                                                                                                                                                                                                                                                                                                                                                                                                             |  |                                 |  |                                |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |  |                                                                                                                |  |                                                                                                                 |  |                                                                                                                                      |  |                                                                                                                                                     |  |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|---------------------------------|--|--------------------------------|--|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|----------------------------------------------------------------------------------------------------------------|--|-----------------------------------------------------------------------------------------------------------------|--|--------------------------------------------------------------------------------------------------------------------------------------|--|-----------------------------------------------------------------------------------------------------------------------------------------------------|--|
| NCR No. _____                                                                                                                                                                                                                                                                                                                                                                                                                                               |  | Job: _____                      |  | Part No. _____                 |  | DISPOSITION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  | DEPARTMENT/PROCESS                                                                                             |  | Route update only                                                                                               |  |                                                                                                                                      |  |                                                                                                                                                     |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                             |  | Rework <input type="checkbox"/> |  | Scrap <input type="checkbox"/> |  | Use-as-is <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  | Skid-tube <input type="checkbox"/><br>Machining <input type="checkbox"/><br>Large Fab <input type="checkbox"/> |  | Cross tube <input type="checkbox"/><br>Small Fab <input type="checkbox"/><br>Finishing <input type="checkbox"/> |  | Eng. (Non-AW) <input type="checkbox"/><br>Prod. Eng. Coord. <input type="checkbox"/><br>Rec/Store/Packaging <input type="checkbox"/> |  | Engineering <input type="checkbox"/><br>Water Jet <input type="checkbox"/><br>Supplier <input type="checkbox"/><br>Quality <input type="checkbox"/> |  |
| Date :                                                                                                                                                                                                                                                                                                                                                                                                                                                      |  | Sequence #:                     |  | QTY Affected :                 |  | MRB (QS1042)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |                                                                                                                |  |                                                                                                                 |  |                                                                                                                                      |  |                                                                                                                                                     |  |
| Description Work Order Deviation                                                                                                                                                                                                                                                                                                                                                                                                                            |  |                                 |  |                                |  | Disposition                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  |                                                                                                                |  |                                                                                                                 |  |                                                                                                                                      |  |                                                                                                                                                     |  |
| <div>Root Cause</div> <div><div>Operator <input type="checkbox"/></div><div>Manufacturing Process <input type="checkbox"/></div><div>Equip/Tooling <input type="checkbox"/></div><div>Handling/Preservation <input type="checkbox"/></div><div>Material <input type="checkbox"/></div><div>Product Improvement <input type="checkbox"/></div><div>Process Improvement <input type="checkbox"/></div><div>Human Factors <input type="checkbox"/></div></div> |  |                                 |  |                                |  | <div>FAULT CATEGORY</div> <div><div>Pressure/Forced <input type="checkbox"/></div><div>Bending <input type="checkbox"/></div><div>Crushing <input type="checkbox"/></div><div>Cracks <input type="checkbox"/></div><div>Crimp/Kink/Ripple/Wave/Twist <input type="checkbox"/></div><div>Marks/Chatter <input type="checkbox"/></div><div>Mislabeled <input type="checkbox"/></div><div>Other/Details: _____</div></div> <div><div>Contamination <input type="checkbox"/></div><div>Misaligned/off center <input type="checkbox"/></div><div>BOM/Route <input type="checkbox"/></div><div>Broken/Damage/Defect <input type="checkbox"/></div><div>Incomplete/Unclear Instructions <input type="checkbox"/></div><div>Drill Holes <input type="checkbox"/></div><div>Fit/Function <input type="checkbox"/></div></div> <div><div>Power Loss/Surge <input type="checkbox"/></div><div>Folio/Program <input type="checkbox"/></div><div>Grain Direction <input type="checkbox"/></div><div>Weld <input type="checkbox"/></div><div>Wrong Stock Pulled <input type="checkbox"/></div><div>Out of Sequence <input type="checkbox"/></div><div>Off-set/Set-up <input type="checkbox"/></div></div> <div><div>Positioned Wrong <input type="checkbox"/></div><div>Outside Tolerance <input type="checkbox"/></div><div>Drawing <input type="checkbox"/></div><div>Finish <input type="checkbox"/></div><div>Part Lost/Missing <input type="checkbox"/></div><div>Misread <input type="checkbox"/></div></div> |  |                                                                                                                |  |                                                                                                                 |  | Completed By                                                                                                                         |  |                                                                                                                                                     |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                             |  |                                 |  |                                |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |  |                                                                                                                |  |                                                                                                                 |  | Lead hand / Supervisor                                                                                                               |  |                                                                                                                                                     |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                             |  |                                 |  |                                |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |  |                                                                                                                |  |                                                                                                                 |  | QC / QA Coordinator                                                                                                                  |  |                                                                                                                                                     |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                             |  |                                 |  |                                |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |  |                                                                                                                |  |                                                                                                                 |  |                                                                                                                                      |  |                                                                                                                                                     |  |